DISCRETE RANDOM SIGNALS AND STATISTICAL SIGNAL PROCESSING

Errata (October 22, 2002)

p. x	§9.3	*change* Least-Squares *to* Least Squares
p. xvi	line 7	*change* most *to* all
p. xviii	8th from bottom	*change* there an *to* there is an
p. 9	Fig. 1.8 (b)	*change* encoder *to* decoder
p. 30	Eq. (2.40)	*change to large* ∞ *in limits of integration (4 places)*
p. 40	Fig. 2.3 (a)	*change* Δx *to* $\Delta \mathrm{x}$ *(roman font, 2 places)*
p. 43	Eq. (2.100)	*change* $(\mathrm{x}-\mathrm{m})^2$ *to* $\lvert\mathrm{x}-\mathrm{m}\rvert^2$ *(in exponent)*
p. 51	Eq. (2.139)	*(second column of matrix* $\mathbf{E}$*) change* $\mathbf{e}_1$ *to* $\mathbf{e}_2$
p. 52	line below (2.145)	*change* cannonical *to* canonical
p. 56	2nd line above (2.158)	*change* unitary *to* orthonormal
p. 57	line 1	*change* unitary *to* orthonormal
p. 59	Fig. 2.5 caption	*change* function. *to* function *change* Concentration *to* concentration
p. 65	top equation	*insert* = *between first vector and matrix*
p. 81	Prob. 2.35	*change* hermitian *to* Hermitian
p. 105	3rd from bottom	*change* Fig. 3.10(a) *to* Fig. 3.10(b)
p. 112	4th line (equation)	*change* $\mathrm{P}_{2\vert 3}$ *to* $\mathrm{P}_{2\vert 1}$
p. 125	Fig. 3.17	*change dashed line above* t_2 *to solid*
p. 126	2nd from bottom	*change* form *to* can be used to form
p. 127	3rd, 4th line after equation	*move* (recall . . . increments) *to after the word* independent *in first line after the equation*
p. 132	Ref. 3	*change* Schubert *to* Shubert
p. 137	Prob. 3.25	*change* Wiener *to* white noise *(2 places)*
p. 138	Prob. 3.25	*change* (3.67) *to* $\zeta[i]$ in (3.67)
p. 138	Prob. 3.25(a)	*change* Wiener *to* white noise
p. 138	Prob. 3.26	*(last line, expression for determinant) change* σ_{o}^2 *to* σ_{o}^{2N}
p. 145	2nd line after (4.14)	*change second occurrence of* $x[n_0]$ *to* $x[n_1]$ *and second occurrence of* $x[n_1]$ *to* $x[n_0]$
p. 146	Fig. 4.2	*insert* = *in equation before summations*
p. 150	Eq. (4.25)	*change* $\mathrm{C}_x[N-1,2]$ *to* $\mathrm{C}_x[N-1,1]$
p. 154	Fig. 4.4	*arrowheads on* <u>*both*</u> *ends of crossed lines*
p. 154	Fig. 4.5	*change* $R_{yx}[l]=0$ *to* $R_{yx}[l]\neq 0$
p. 155	matrix $\mathbf{R}_{xy}$	*elements* $R_{xy}[\ ]$ *should not be bold*
p. 165	Example 4.5	*change* $R_x(l)$ *to* $R_x[l]$ *(3 places)*
p. 166	Example 4.5	*(1st equation) change* $R_x(l)$ *to* $R_x[l]$
p. 166	Fig. EX4.5b	*w should be the same font used in the text*
p. 167	Example 4.5	*change* $R_x(l)$ *to* $R_x[l]$ *(2 places)*
p. 171	Fig. 4.10	*v,x should be the same font used in the text*
p. 183	4th from bottom	*change* useful *to* a useful
p. 195	line 11	*change* resonable *to* reasonable

p. 196	Fig. 4.19(c)	*change* $R_x(l)$ *to* $R_x[l]$
p. 199	line above (4.150)	*change* $t_2 > t_1$ *to* $t_2 < t_1$
p. 209	Fig. 4.24(b)	*change* $C_x^{(3)}[-l_2, l_2 - l_1]$ *to* $C_x^{(3)}[-l_2, l_1 - l_2]$
p. 215	Ref. 23	*change* Nikias *to* Nikias and Athina P. Petropulu
p. 215	Ref. 23	*change* *Moments in Digital Signal Processing* *to* *Spectra Analysis*
p. 215	Ref. 23	*change* New Jersey *to* New Jersey, 1993
p. 232	Eq. (5.23)	*change* $h[n, k]$ *to* $h[n_1, k]$
p. 236	13th from bottom	*change* only the *to* only of the
p. 245	1st equation	*change* σ *to* σ^2
p. 251	Fig. 5.10(a)	*add another zero on negative real axis inside unit circle*
p. 252	4th from bottom	*change* $-\infty$ *to* 0
p. 264	Fig. 5.17	*in 3rd quadrant: change* G_1 *to* G_2 *(two places)*
p. 266	Table 5.3	*second line: change* ax^{-1} *to* az^{-1}
p. 276	line 6	*change* $\begin{cases} \gamma(\omega) & \geq 0 \\ 0 & \text{otherwise} \end{cases}$ *to* $\begin{cases} \gamma(\omega) & \gamma(\omega) \geq 0 \\ 0 & \text{otherwise} \end{cases}$
p. 278	second equation	*change* $(0.7)^n$ *to* $(0.7)^{(n-8)}$
p. 279	icon	*change* $f_{y/x}$ *to* $f_{y\|x}$
p. 285	2 lines above (6.11)	*change* values *to* counts
p. 288	Eq. (6.22)	*change* x_1, x_2, x_3, x_4 *to* y_1, y_2, y_3, y_4
p. 291	Fig. 6.4	*change* [ ] *for expectation to* { } *(two places)*
p. 300	7th equation	*change* $\frac{\partial}{\partial \mathbf{m}}$ *to* $\nabla_{\mathbf{m}}$
p. 302	Eq. (6.54)	*change* m_x *to* $\hat{m}_x$
p. 305	6th below (6.64)	*change* consistant *to* consistent
p. 312	Eq. (6.83)	*outer integrals (over* $\mathbf{x}$*) should have large* ∞ *in limits of integration*
p. 315	Example 6.6	*(1st line of 2nd paragraph) change* strip *to* line
p. 315	Fig. EX6.6a	*change shaded strip to a line*
p. 320	line 3 in 3rd par.	*change* resonable *to* reasonable
p. 332	Prob. 6.12 (a)	*delete the expression* $R(0), R(1), R(2)$
p. 333	Prob. 6.16 (a)	*delete the word* below
p. 333	Prob. 6.16 (b)(c)	*delete the word* minimum *(2 places)*
p. 334	Prob. 6.21	*change* $f_{x,y}$ *to* $f_{\boldsymbol{x}y}$
p. 339	2 lines above (7.4)	*change* $(\|\mathbf{a}^{\perp}$ *to* $\|(\mathbf{a}^{\perp}$
p. 342	Fig. 7.2	*move* n *to under the axis directly below the sample* $x[n]$
p. 343	line 2	*change* the the *to* the
p. 347	Fig. 7.4	*variable* x *should be conjugated in the following expressions:* $E\{\varepsilon[1]x^*[0]\} = 0$, $E\{\varepsilon[2]x^*[1]\} = 0$, $E\{\varepsilon[2]x^*[0]\} = 0$ *(with* {} *for the expectation.)*
p. 357	1st line after (7.79)	*strike out sentence:* The errors ... *process.*
p. 359	line 8	*change* $[l]$ *to* $\delta[l]$
p. 359	Eq. (7.63)	*change* $k = 0$ *to* $l = 0$ *on summation*
p. 368	line 4	*delete the phase* for $\alpha < 1$,
p. 388	line 2	*change* (7.164) *to* (7.163)
p. 391	end of line 1	*insert* if $S_x(z)$ is not bandlimited
p. 391	line 4	*change* process can *to* process that is not bandlimited can
p. 394	Theorem 7.3	*change to* Any random process that is not bandlimited can ...

p. 400	Prob. 7.4 (a)	*change* values *to* correlation function
p. 402	Prob. 7.11 (b)	*change* equations *to* equation
p. 404	Prob. 7.23	*delete the last sentence (*Also . . . error.*)*
p. 404	Prob. 7.24	*change* $s[n] = \left(\frac{1}{\sqrt{2}}\right)^n u[n]$ *to* $R_s[l] = \left(\frac{1}{\sqrt{2}}\right)^{\lvert l \rvert}$
p. 405	Prob. 7.27	*change* for conditions *to* for the conditions
p. 405	Prob. 7.28	*change entries in 1st column of table to* $-1, 0, 1, 2, 3$
p. 408	Comp. As. 7.6	*change* 7.2 *to* 7.5 *(first line)*
p. 433	Fig. 8.5	*move* z^{-1} *left underneath branch* *move* $\varepsilon_{p-1}^b[n]$ *right underneath node*
p. 443	Eq. (8.122)	*change* poles *to* zeros *and* zeros *to* poles
p. 445	Fig. 8.17	*reverse direction of arrows on right side of triangle*
p. 448	Step 1 (a)	*change* $R_x^*[0]$ *to* $R_x[0]$
p. 453	Fig. 8.22	*insert an* $=$ *between first vector and matrix*
p. 461	Eq. (8.161)	*(3rd line of equation) change* $-K_{p-1}$ *to* K_{p-1}
p. 470	line 6	*change* $s_k^{(1)}$ *to* $s_k^{(2)}$
p. 473	Fig. 8.24 (b)	*move lower branch gains* z^{-1} *and* -1 *closer to the branches*
p. 473	Fig. 8.24 (b)	*change* ε_4 *to* $\varepsilon_4[n]$
p. 485	line 10	*(2nd line after (8.241)*$a_p^{(p)*}$*) change* $a_p^{(p)*}$ *to* $-a_p^{(p)*}$
p. 479	box	*add semicolon* (`;`) *after* `gamma(1)=0`
p. 497	Prob. 8.3	*change long dash (—) to a comma*
p. 497	Probs. 8.3, 8.4	*change* a_1 *and* a_2 *to* a_1 *and* a_2 *(3 places)*
p. 497	Prob. 8.5	*change* Given *to* You are given
p. 499	Prob. 8.12	*change* 0.2929_J *to* 0.2928_J
p. 499	Prob. 8.19	*(2nd line) change* matrix *to* function
p. 501	Comp. As. 8.2	*(part (b)) change* 8.8 *to* 8.19
p. 512	line 18	*delete word* however *and commas*
p. 512	lines 13,15,16,26	*change* $S_{x'}$ *to* S_y
p. 513	lines 3,5	*change* $S_{x'}$ *to* S_y *(3 places)*
p. 514	lines 1,2,4,5,7	*change* $S_{x'}$ *to* S_y
p. 514	lines 7,8,10	*change* 0.396 *to* 1.262 *(4 places)* *change* 1.262 *to* 0.396 *(4 places)* *(filter should be minimum phase)*
p. 519	line 28	*change* thoughout *to* throughout
p. 526	Fig. 9.5	*hat should be bold on symbol* $\hat{\mathbf{d}}$ *(both parts of figure)*
p. 529	line below (9.74)	*change* $\mathbf{S}$ *to* $\mathbf{S}_1$
p. 533	Eq. (9.84)	*change* Δ *to bold* $\boldsymbol{\Delta}$
p. 543	Eq. (9.121)	*add* $+\lambda^*(1 - \boldsymbol{\iota}^T\mathbf{a})$ *to first line before the*]
p. 560	Eq. (9.157	*change* $x[1]$ *to* $\mathrm{x}[1]$
p. 561	matrix equation	*change* $3(-1)^4$ *to* $4(-1)^4$
p. 562	Fig. 9.11(b)	*change lower* $+$ *sign on summation to* $-$
p. 562	Eq. (9.162)	*change* $n = P$ *to* $n = \min(P, Q)$
p. 563	line 16	*change* $n = 0, 1, \ldots$ *to* $n = 2, 3, \ldots$
p. 563	line above (9.163)	*insert at beginning of sentence:* For $P \geq Q$
p. 575	Fig. 9.21(b)	*(in key) change* $+$ *to* $\times$*, change* $*$ *to* $\circ$
p. 581	Prob. 9.17	*interchange* $\mathbf{u}^*$ *and* $\mathbf{v}^*$ *in the definition of* $\mathbf{w}_2$
p. 583	Comp. As. 9.1	*(second line of part (a)) change* three *to* two
p. 584	line 5	*change* Shank's *to* Shanks'

p. 595	4th equation	*change* $L-1$ *to* L *and* $-L+1$ *to* $-L$
p. 613	2nd equation	*change* $\mathbf{X}\mathbf{X}^{*T}$ *to* $\mathbf{X}^{*T}\mathbf{X}$
p. 615	§10.4.1	*(1st line) change* Soviet *to* Russian
p. 621	Fig. 10.14	$\boldsymbol{\Sigma_\eta}$ *should be bold (2 places)*
p. 625	middle of page	*change* $\mathbf{e}_3 = \begin{bmatrix} & -\frac{1}{\sqrt{2}} \\ 0 & -\frac{1}{\sqrt{2}} \end{bmatrix}$ *to* $\mathbf{e}_3 = \begin{bmatrix} -\frac{1}{\sqrt{2}} \\ 0 \\ -\frac{1}{\sqrt{2}} \end{bmatrix}$
p. 627	Fig. 10.16	*change* $-\sigma_\mathrm{o}^2$ *to* σ_o^2 *and move left*
p. 630	line 1	*change* covariance *to* correlation
p. 635	Eq. (10.168)	*change* $\mathbf{S}^{*T}\mathbf{P}_\mathrm{o}\mathbf{S}$ *to* $\mathbf{S}\mathbf{P}_\mathrm{o}\mathbf{S}^{*T}$
p. 635	line 23	*change* $\|\mathbf{a}^2\|$ *to* $\|\mathbf{a}\|^2$
p. 636	line above (10.177)	*change* $\mathbf{R}'_\mathbf{x}$ *to* $\mathbf{R}'_{\boldsymbol{x}}$
p. 641	Fig. 10.19 (a)–(e)	*align symbols on vertical axis to read* $\|A(e^{\jmath\omega})\|^2$ *(frequency axis) change* 0.0 *to* 0
p. 644	Fig. 10.21	*legend: change* $\circ$ *to* $\bigcirc$*; change* $+$ *to* $\cdot$
p. 644	Fig. 10.21 caption	*change* ©IEEE 1982 *to* ©IEEE 1986
p. 645	Eq. (10.188)	*change* $x[N+1]$ *to* $x[N]$
p. 648	Step **7**	*change* (10.192) *to* (10.184)
p. 668	below (10.266)	*change* $n_F = \max\ldots$ *to* $n_F = \min\ldots$
p. 671	Fig. 10.28	*move* L_2 *one tick mark up*
p. 681	line 2	*problem number for problem* **10.4** *is missing*
p. 683	Comp. As. 10.3	*(line 1) change* Assignment 9.1 *to* Assignments 9.1 – 9.3 *(line 3) insert after* covariance method, *the additional phrase:* the modified covariance method,
p. 684	Comp. As. 10.4	*(part (b)) delete* time
p. 684	Comp. As. 10.5	*(part (iv)) change* Principle *to* Principal
p. 702	Fig. B.6	*change* f_0 *to* f_o
p. 710	Fig. B.11 (b)	*change* $S_x^{c+} + (f + f_\mathrm{o})$ *to* $S_x^{c+}(f + f_\mathrm{o})$
p. 710	Eq. (B.43)	*change* $-2\mathrm{Im}$ *to* $2\jmath\mathrm{Im}$
p. 725	column 1	*entry* norm -of a vector *change* 18 *to* 18, 23